IN THE CLAIMS

Amend Claims 1, 7,15 and 21 as follows and add Claims 26-28:

1. (Currently Amended) A method of producing hydrogen and/or oxyhydrogen gases, comprising the steps of

arranging a liquid (9) such as water between a cathode (6) and an anode (7), also arranging an electrically non-conductive ion exchanger (10) within the liquid (9) and directly between the cathode (6) and anode (7) without any intervening membrane,

electrolytically treating the liquid (9), ~~and~~

the hydrogen and/or oxyhydrogen adhering to the ion exchanger (10) present in the liquid (9), by marginal groups adhering thereto by ionic bonding and/or van der Waals forces being released in the electrolysis and escaping upwardly into a space (14) above the liquid (9), and

capturing and retaining the thus-generated hydrogen and/or oxyhydrogen gas from the space (14) above the liquid.

2. (Original) A method in accordance with claim 1, wherein the gas to be produced is hydrogen.

3. (Previously Presented) A method in accordance with claim 1, wherein the gases to be produced are hydrogen and oxygen.

4. (Previously Presented) A method in accordance with claim 1, wherein the liquid (9) is water.

5. (Previously Presented) A method in accordance with claim 1, wherein the substance (10) to which the gas adheres is an ion exchanger.

6. (Original) A method in accordance with claim 5, wherein the ion exchanger (10)

is an acid ion exchanger.

7. (Currently amended) A method of producing hydrogen and/or oxyhydrogen gases, comprising the steps of

arranging a liquid (9) such as water between a cathode (6) and an anode (7),

also arranging an electrically non-conductive ion exchanger (10) within the liquid (9) and directly between the cathode (6) and anode (7) without any intervening membrane,

electrolytically treating the liquid (9) , ~~and~~

the hydrogen and/or oxyhydrogen adhering to the ion exchanger (10) present in the liquid (9), by marginal groups adhering thereto by ionic bonding and/or van der Waals forces being released in the electrolysis and escaping upwardly into a space (14) above the liquid (9), and

capturing and retaining the thus-generated hydrogen and/or oxyhydrogen gas from the space (14) above the liquid (9),

wherein the ion exchanger (10) is of gel-like form.

8. (Previously Presented) A method in accordance with claim 5, wherein the ion exchanger (10) comprises a matrix, active groups and ions to be exchanged.

9. (Previously Presented) A method in accordance with claim 5, wherein the ion exchanger (10) contains catalytically acting substances.

10. (Previously Presented) A method in accordance with claim 5, wherein the ion exchanger (10) contains catalytically acting and/or gas delivering enzymes.

11. (Previously Presented) A method in accordance with claim 5, wherein the ion exchanger (10) is kept in motion.

12. (Previously Presented) A method in accordance with claim 5, wherein the ion exchanger (10) is kept in suspension in the liquid (9).

13. (Previously Presented) A method in accordance with claim 5, wherein the ion exchanger (10) is supplied continuously.

14. (Previously Presented) A method in accordance with claim 1, carried out in multiple stages.

15. (Currently Amended) An apparatus for carrying out the method in accordance with claim 1, comprising

a container (1),

a liquid (9) such as water situated within the container (1),

an electrically non-conductive ion exchanger (10) present in the liquid (9) and to which one or more of the gases to be produced adheres,

a positive electrode (6) and negative electrode (7) situated within the container (10), structured and arranged to be connected to a power source (13) and with the electrically non-conductive ion exchanger (10) situated directly between the cathode (6) and anode (7) without any intervening membrane, and

means (14) for accumulating, capturing and retaining the hydrogen and/or oxyhydrogen gases within the container (1) and above an upper level (8) of the liquid (9) therein,

with marginal groups adhering to the electrically non-conductive ion exchanger by ionic bonding and/or van der Waals forces being released in the electrolysis.

16. (Original) An apparatus in accordance with claim 15, wherein an electrode (7) is tubular in design.

17. (Previously Presented) An apparatus in accordance with claim 15, wherein a filler material is present, in particular inside the tubular electrode (7), in the liquid (9) containing the gas to be produced and a substance (10) to which the gas to be produced adheres.

18. (Original) An apparatus in accordance with claim 17, wherein an acid is present in the filler material.

19. (Previously Presented) An apparatus in accordance with 16, wherein a filler material is present, in particular inside the tubular electrode (7), in the liquid (9) containing the gas to be produced and a substance (10) to which the gas to be produced adheres.

20. (Previously Presented) An apparatus in accordance with claim 19, wherein an acid is present in the filler material.

21. (Currently Amended) An apparatus in accordance with claim 26 ~~15~~, additionally comprising

means for suctioning out the hydrogen and/or oxyhydrogen gases from said ~~a~~ space (14) above the upper level (8) of the liquid (9) within the container (1) ~~and constituting said accumulating means (14)~~.

22. (Previously Presented) An apparatus in accordance with claim 15, wherein the ion exchanger (10) comprises a matrix of cross-linked plastic.

23. (Previously Presented) A method in accordance with claim 8, wherein the ion exchanger (10) comprises a matrix of cross-linked plastic.

24. (Previously Presented) An apparatus in accordance with claim 15, additionally comprising means for keeping the ion exchanger (10) in motion by a fluidized bed process to improve gas production and electron flow.

25. (Previously Presented) A method in accordance with claim 1 wherein H-ions are separated at the ion exchanger (10).

26. (New) An apparatus in accordance with claim 15, wherein said container (1) is formed by a housing (3) and top cover (4) and said means (14) include an enclosed

space (14) situated above the upper level (8) of the liquid (9) within the container (1), underneath the top cover (4) and laterally adjacent walls of the housing (3).

27. (New) An apparatus in accordance with claim 16, wherein said container (1) is formed by tubular housing (3) closed by upper and lower covers (4, 5).

28. (New) A method in accordance with claim 1, wherein the liquid is water.